

## REMARKS

The above Amendments and these Remarks are in reply to the Office Action mailed March 31, 2008. Claims 1-23 were pending in the Application prior to the outstanding Office Action. Claims 1, 2, 4 and 8-23 are currently being amended. No claims are currently being canceled or added. Thus, claims 1-23 remain for the Examiner's consideration, with claims 1 and 21-23 being independent. In view of the above amendments and the following remarks, reconsideration and withdrawal of the outstanding rejections are respectfully requested.

### **I. Summary of Prior Art Rejections**

Claims 1-6, 8, 10 and 13-23 were rejected under 35 U.S.C. 103(a) for allegedly being unpatentable over Glass et al. (hereafter Glass)(U.S. Pub. No. 2005/0060643 A1) in view of Rounthwaite et al. (hereafter Rounthwaite)(U.S. Patent No. 7,249,162 B2), and further in view of Horvitz et al. (hereafter Horvitz)(U.S. Pub. No. 2004/0039786 A1)

Claim 7 was rejected under 35 U.S.C. 103(a) for allegedly being unpatentable over Glass in view of Rounthwaite, in view of Horvitz, and further in view of U.S. Patent No. 7,194,681 to Horvitz (hereafter Horvitz2).

Claims 9, 11 and 12 were rejected under 35 U.S.C. 103(a) for allegedly being unpatentable over Glass in view of Rounthwaite, in view of Horvitz, and further in view of U.S. Patent No. 6,842,773 to Ralston et al. (hereafter Ralston).

*(a discussion of the claims begins on the next page)*

## **II. Discussion of the Claims**

### **Claim 1**

Claim 1, as amended, is reproduced below, for the convenience of the Examiner.

1. A method for classifying email messages, the method comprising:

using each module of a plurality of different modules to determine a level of sameness of a particular email message with one or more prior email messages, wherein each module determines a level of sameness in a different manner than the other modules, and wherein each module of at least some of the modules is assigned a non-zero weight indicative of the module's performance level;

determining an overall level of sameness for the particular email message by combining results of at least two of the plurality of different modules using the non-zero weights assigned to the modules;

evaluating the performance level for each of the different modules that were used to determine the level of sameness for the particular email message;

comparing the performance levels evaluated for the different modules that were used to determine the level of sameness for the particular email message;

adjusting the non-zero weights of at least two of the modules in response to comparing the performance levels, including increasing the non-zero weight of at least one of the modules and reducing the non-zero weight of at least another one of the modules; and

using the overall level of sameness determined for the particular email message to classify the particular email message into a category.

- Claim 1, as amended, requires “using each module of a plurality of different modules to determine a level of sameness of a particular email message with one or more prior email messages, wherein each module determines a level of sameness in a different manner than the other modules, and wherein each module of at least some of the modules is assigned a non-zero weight indicative of the module’s performance level”.

In the Office Action, it was alleged that this step of claim 1 (prior to the current amendment) is disclosed by paragraph [0240] of Glass. Paragraph [0240] of Glass explains that a document “handprinting” process, which profiles documents using digitally fingerprinted “fingers”, can be used to determine the similarity of documents. However, use of Glass’s handprinting process appears to only teach using a single module to determine a level of sameness. Further, Glass does not teach that the handprinting process, or the fingers, are assigned non-zero weights indicative of their performance levels. Additionally, Rounthwaite and Horvitz do not teach or suggest these deficiencies of Glass.

- Claim 1, as amended, also requires “determining an overall level of sameness for the particular email message by combining results of at least two of the plurality of different modules using the non-zero weights assigned to the modules”. This step enables an overall level of sameness to be determined taking into account weights of different modules, e.g., where a module having a historically high performance level can be weighted greater than a module having a historically lower performance level, yet in a manner that still takes into account the results of different modules.

It was alleged in the Office Action that lines 1-6 of paragraph [0196] teaches a weighting of the outputs of modules.

Lines 1-6 of paragraph [0196] of Glass is provided verbatim below:

“Content chunks of an unclassified document are compared to the sets of content chunks comprising each of a set of previously classified sample documents in order to determine a highest level of resemblance between an unclassified document and any of a set of previously classified documents.”

Since there is no discussion of multiple results from multiple different modules in paragraph [0196], and there is no discussion of weighting in paragraph [0196], Applicant respectfully asserts that this portion of Glass can not possible teach or suggest “determining an overall level of sameness for the particular email message by combining results of at least two of the plurality of different modules using the non-zero weights assigned to the modules”, as required by claim 1 as amended. If the Examiner is to maintain that Glass teaches such features, Applicant respectfully requests that the Examiner explain in further detail which elements in Glass are being interpreting as disclosing multiple different modules, and how results of such modules are being combined to determine an overall level of sameness using non-zero weights assigned to the modules.

Further, there appears to be some inconsistency in the Office Action in that: on the bottom of page 2 of the Office Action it is stated that lines 1-6 of paragraph [0196] of Glass teaches that “the level of sameness is derived for the particular email message from a weighting of the outputs of the modules”; and thereafter, in the second paragraph on page 3 of the Office Action, it is stated that Glass teaches all of the limitations of the claim “except for using a plurality of modules to determine the level of sameness”. If another Office Acton is issued, clarification of the above mentioned apparent inconsistency is respectfully requested, so that the Applicant can better respond to the Office Action.

- On page 4 of the Office Action it was asserted that it “would have been obvious for one or ordinary skill in the art at the time of the invention to modify Glass to include a plurality of filtering modules as taught by Rounthwaite in order to effectively select one of the plurality of filters based on the performance of each filter depending on the message type.” Applicant does not agree with this assertion. However, even assuming this assertion is true, that is not what is being claimed.

A combination of Glass and Rounthwaite would at best appear to result in more than one filter being used, where one of the filters is selected for use (and the other is not, i.e., the other is zero-weighted) depending false positive and false negative rates. A combination of Glass and Rounthwaite may also teach routing less messages to the filter

that performs worse (in terms of false positive and false negative rates), and routing more messages to the filter that performs better (in terms of false positive and false negative rates). This is also not what is being claimed.

- On page 4 of the Office Action it was admitted that Glass and Rounthwaite do not disclose the use of multiple emails modules to determine a level of sameness by combining the outputs of at least two modules. However, it was asserted that Horvitz teaches this deficiency of Glass and Rounthwaite. Applicant respectfully disagrees. Nevertheless, this aspect of claim 1 has been amended to further define the embodiment being claimed. More specifically, as discussed above, claim 1, as amended, now requires “determining an overall level of sameness for the particular email message by combining results of at least two of the plurality of different modules using the non-zero weights assigned to the modules”.

In paragraph [0009], Horvitz states that it provides multi-level cascade and/or parallel combinations with respect to sorting or filtering message/items. However, Horvitz’s use of filters in parallel or cascaded does not teach that there is the combining of results of at least two filters using non-zero weights assigned to the filters. Rather, if filters are cascaded, it can be that a message is provided to a first filter, and then only provided to the second filter if it makes it through the first filter. Alternatively, as explained in paragraph [0043] of Horvitz, “in a cascade of filters, bulk email versus non-bulk can be sorted ..., then importance of non-bulk messages is determined via an importance filter to provide further sorting, then urgency of important messages is determined via an urgency filter.”

With regards to Horvitz’s parallel combinations of filters, paragraph [0011] explains “a bulk filter and an urgency filter process received messages in parallel” and that the output “from respective filters includes scoring of the received messages according to the likelihood the messages are of the bulk variety (e.g., mass sales literature) or non-bulk variety and the urgency of the received messages”. Such assigned scores can then be used to enable sorting of the messages according to the assigned scores. However, Horvitz never teaches or suggests that the assigned scores from the

different filters can be combined into an overall score using non-zero weights assigned to the different filters.

Paragraph [0011] of Horvitz also explains that “an urgency filter computes an expected urgency score for bulk and non-bulk messages” and a “bulk filter then computes a bulk score for the urgency scored messages and performs a re-weighting process by considering the likelihood that a given message is bulk given the bulk score”. This appears to mean that a message’s urgency score can be increased or decreased, based on the likelihood that the message is bulk (or not bulk), e.g., if it is likely that the message is bulk its urgency score will be lowered, and if it is likely that the message is non-bulk its urgency score will be increased. While Horvitz is using a type of weighting here, Horvitz is not disclosing that the scores from the different filters are combined into an overall score using non-zero weights assigned to the different filters. This is for at least the reasons that the filters in Horvitz are not assigned weights. Rather, Horvitz uses a “weighting component 220” to adjust a score previously determined by a filter, where the weighting component 220 can re-weight/adjust the score (e.g., an urgency score) determined by one filter (e.g., an urgency filter) based on a score determined by another filter (e.g., a bulk filter).

It is noted that paragraph [0045] of Horvitz, when discussing how filters can be applied in different combinations at step 606 of FIG. 6, states that:

“Such filters include urgency filters, importance filters, time critical filters, and/or **weighted filters** for example. At 608, the filters constructed at 602 and 604 are applied to incoming messages in various combinations. This can include parallel combinations of filters, serial combinations, and/or combinations having some serial elements and some parallel elements. At 612, messages are automatically analyzed and filtered according to desired combinations configured at 608. This can include dynamic sorting operations, wherein messages deemed to be of the bulk variety are sorted out into a separate folder, whereas other messages are prioritized in an inbox, for example. Other aspects include enabling users to set thresholds that set likelihood limits for when an item is considered bulk. If an item scores above the threshold for example, indicating that a message has been determined to be bulk, then the respective bulk email can be deleted, removed, and/or sorted.”

However, the above quoted portion of Horvitz appears to state that a weighted filter is one of the types of filters, not that the urgency filters, importance filters, time

critical filters are each assigned a weight indicative of their performance level. Rather, the so called “weighted filters” appear to be the same as the weighting component 220, which as explained above, merely re-weights/adjusts a score determined by one filter (e.g., an urgency filter) based on a score determined by another filter (e.g., a bulk filter).

Further, as explained above, the way that an overall level of sameness is determined in claim 1 enables weights of different modules to be taken into account, e.g., where a module having a historically high level can be weighted greater than a module having a historically lower level of performance, yet in a manner that still takes into account the results of different modules. This can not be accomplished using the weighting component/filter of Horvitz, because the weighting component/filter of Horvitz is fine tuning the results of one filter based on the results of another filter, without taking into account the performance levels of the various filters. Further, any weighting in Horvitz has nothing to do with performance level.

- Claim 1, as amended, also requires “evaluating the performance level for each of the different modules that were used to determine the level of sameness for the particular email message”.

It was asserted in the Office Action that column 2, lines 39-44 of Rounthwaite teaches determining a performance level for each of a plurality of modules. Column 2, lines 39-44 of Rounthwaite explains that a false positive rate and a false negative rate can be determined for both a seed filter and a new filter, each of which is being used to identify junk/spam messages. However, Rounthwaite does not teach or suggest that the seed filter and new filter are being used to determine the level of sameness for a particular email message. Accordingly, while Rounthwaite may determine a performance level for two filters, the filters of Rounthwaite are not being used to determine a level of sameness for a particular email message. Accordingly, Rounthwaite does not teach evaluating the performance level for each of the different modules that were used to determine the level of sameness for the particular email message, as required by claim 1 as amended.

- Claim 1, as amended, also requires “comparing the performance levels evaluated for each of the different modules that were used to determine the level of sameness for the particular email message”.

It was asserted in the Office Action that column 2, lines 45-49 of Rounthwaite teaches comparing performance levels. Column 2, lines 45-49 of Rounthwaite explains that the new filter is employed in lieu of the seed filter if a threshold exists for the new filter such that the new false positive rate and new false negative rate are together considered better than the false positive and false negative rates of the seed filter. Accordingly, it appears that Rounthwaite is comparing the performance levels of the new filter and the seed filter. However, as explained above, the filters of Rounthwaite are not used to determine a level of sameness for a particular email message. Accordingly, Rounthwaite does not teach comparing the performance levels determined for each of the different modules that were used to determine the level of sameness for the particular email message, as required by claim 1 as amended.

- Claim 1 as amended also requires “adjusting the non-zero weights of at least two of the modules in response to comparing the performance levels, including increasing the non-zero weight of at least one of the modules and reducing the non-zero weight of at least another one of the modules”.

Various portions of Rounthwaite were cited to in the Office Action for allegedly inherently teaching adjusting a weighting of a module in response to comparing performance levels, including: column 5, lines 29-32; column 17, lines 43-46; and column 18, lines 42-47.

Column 5, lines 29-32 of Rounthwaite says that a most appropriate one of a plurality of second filters is employed in connection with a particular task, presumably meaning the other second filters are not employed in connection with the particular task. Column 17, lines 43-46 of Rounthwaite explains that a system message routing component 806 in FIG. 8 includes a load balancing capability between filter systems according to available bandwidth of the filter systems, in order to route messages away from backed up filters that cannot accommodate needed throughput. Column 18, lines 42-47 of Rounthwaite explains that filter load control can be false negative and false



positive rate data, in that less messages can be sent to the filter system that performs worse.

While it may be argued that Rounthwaite's routing of more messages to a better performing filter than a worse performing filter is a type of weighting, Rounthwaite's alleged weighted routing is certainly not "adjusting the non-zero weights of at least two of the modules (that were used to determine the level of sameness for the particular email message) in response to comparing the performance levels, including increasing the non-zero weight of at least one of the modules and reducing the non-zero weight of at least another one of the modules", as required by claim 1 as amended. This is for at least the reason that the non-zeros weights in claim 1 are what are used when determining the overall level of sameness for a particular email message (by combining results of at least two of the plurality of different modules using the non-zero weights assigned to the modules). In contrast, the alleged weighting on Rounthwaite is only being used to decide which filter will handle a message. Further, any adjusting of the alleged weighted routing in Rounthwaite is not an adjusting of non-zero weights that are used when combining the results of at least two of the plurality of different modules to produce an overall level of sameness. In fact, Rounthwaite never not appear to teach that the results of two of its filters, for a specific message, can be combined in any manner to produce an overall result, let alone on an overall level of sameness.

For at least the reasons set forth above, Applicant respectfully request that the 103(a) rejection of claim 1 be reconsidered and withdrawn.

### **Claims 2-20**

Claims 2-20 depend from and add additional features to claim 1. Applicant asserts that these claims are patentable over the applied references for at least the reason that they depend from claim 1, as well as for the features that they add.

### **Claim 21-23**

Independent claims 21-23 are believed to be patentable over the applied references for similar reasons to those discussed above with regards to claim 1.

Accordingly, Applicant respectfully requests that the 103(a) rejections of these claims also be reconsidered and withdrawn.

### **III. Conclusion**

In light of the above, it is respectfully requested that all outstanding objections and rejections be reconsidered and withdrawn. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

The Commissioner is authorized to charge the required fees and any underpayment of fees or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this reply, including any fee for extension of time, which may be required.

Respectfully submitted,

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